

REMARKS

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Office is respectfully requested to reconsider the rejections presented in the outstanding Office Action in light of the following remarks.

Claims 1-17 were pending in the instant application at the time of the outstanding Office Action. Claims 1, 9, and 17 are independent claims; the remaining claims are dependent claims. Independent Claims 1, 9, and 17 have been rewritten. Dependent Claims 1, 6, 10, and 14 have also been rewritten. These amendments are not in acquiescence of the Examiner's position on the allowability of the claims, but merely to expedite prosecution of the case.

The Section 102(b) Rejection

Claims 1-4, 9-12, and 17 stand rejected under 35 USC § 102(b) as being unpatentable over Weinstein et al. Reconsideration and withdrawal of the present rejections is hereby respectfully requested.

Independent Claims 1, 9, and 17 have all been amended to recite "at least one interfering signal, wherein said one interfering signal need not be statistically independent of said initial speech signal". Dependent Claims 2 and 10 have been amended to recite "and said noise need not be linearly time invariant coupled to said initial speech signal". It is respectfully submitted that such features are neither taught nor suggested by the applied art.

As presently understood, Weinstein et al. appears to be directed to a signal processing system which reconstructs source signals. Weinstein et al., however, requires "that the signals are statistically independent." (Col. 1, lines 42-43) As further stated in Weinstein et al., "[t]he proposed method is universal in the sense that no assumptions are made about the source signals, except that they are statistically independent." (Col. 5, lines 9-12) Weinstein et al. continues that "[in the two channel case ... [w]e observe the outputs ... of an unknown 2X2 stable LTI [linear time invariant] system ..."

Furthermore, in Weinstein et al., the second source signal includes the interfering signal along with some speech. Cf. Claims 3 and 11 ("wherein said second input medium is adapted to obtain solely the at least one interfering signal" and "wherein said step of obtaining at least one interfering signal comprises obtaining solely the at least one interfering signal.") Thus, it is respectfully submitted that Claims 1-4, 9-12, and 17 are not anticipated by Weinstein et al.

The Section 103(a) Rejections

Various dependent claims stand rejected under 35 USC 103(a) over Weinstein et al. in combination with various references. Claims 5 and 13 stand rejected under 35 USC 21 103(a) as being unpatentable over Weinstein et al. in view of Beirle. Claims 6 and 14 stand rejected under 35 USC § 103(a) as being unpatentable over Weinstein et al. in view of Beirle and further in view of Sonmez et al. Claims 7 and 15 stand rejected under 35 USC § 103(a) as being unpatentable over Weinstein et al. in view of Beirle and Sonmez et al. and further in view of Ammar et al. Reconsideration and withdrawal of the present rejections are hereby respectfully requested.

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(590.043)

A 35 U.S.C. 103(a) rejection requires that the combined cited references provide both the motivation to combine the references and an expectation of success. Not only is there no motivation to combine the references, no expectation of success, but actually combining the references would not produce the claimed invention. Thus, the claimed invention is patentable over the combined references and the state of the art.

Claims 5 and 13 stand rejected under 35 USC § 103(a) as being unpatentable over Weinstein et al. in view of Beirle. As presently understood, in Beirle it is recommended that there be a signal conditioning step in which the relative amplitudes of the input and reference signals adjusted. (See Col. 6, lines 30-35) This contrasts with the present invention, however, in which a compensation term is computed that is a function of both the input and reference signals. Thus, it is respectfully submitted these rejections should be withdrawn.

Claims 6 and 14 stand rejected under 35 USC § 103(a) as being unpatentable over Weinstein et al. in view of Beirle and further in view of Sonmez et al. As presently understood, Sonmez et al. uses multiple codebooks: a reference codebook representing the characteristics of the speech features in the reference environment and several other codebooks representing the characteristics of the speech features in distinct and known environments. This contrasts with Claims 6 and 14, which have been amended to recited "referring to a single codebook". Furthermore, Sonmez et al. does not address the problem of removing an unwanted signal from a desired signal: it addresses the issue of adapting to an unknown environment. Thus, it is respectfully submitted these rejections should be withdrawn.

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Claims 7 and 15 stand rejected under 35 USC § 103(a) as being unpatentable over Weinstein et al. in view of Beirle and Sonmez et al. and further in view of Ammar et al. As presently understood, Ammar et al. teaches the use of a feedback compensation term (Figure 1), in which the enhanced speech output by the speech enhancement system is used as an input to compute the compensation term. This difference from the present invention in which there is no feedback. As set forth in the specification, the compensation term of Claims 7 and 15 is computed from the input and reference signals and the codebook vector. Thus, it is respectfully submitted these rejections should be withdrawn.

The "prior art made of record" has been reviewed. Applicants acknowledge that such art was not deemed by the Office to be sufficiently relevant as to have been applied against the claims of the instant application. To the extent that the Office may apply such art against the claims in the future, Applicants will be fully prepared to respond thereto.

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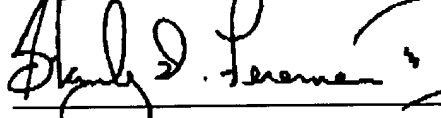
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In summary, it is respectfully submitted that the instant application, including Claims 1-17, is presently in condition for allowance. Notice to the effect is hereby earnestly solicited.

Respectfully submitted,



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